The Cold War finally heats up at Sandia

■ Laboratory is using a spy plane to research global warming

By Jonathan Weisman
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LIVERMORE — Researchers at Sandia National Laboratories have refashioned an old weapon of the Cold War into the newest tool for a more heated battle — the raging debate over global warming.

Sandia officials announced Monday they have conducted the first successful test flight of an unmanned aircraft equipped with instruments for gathering climatic data for global warming studies.

The tiny drone — created by General Atomics as a spy plane — flew over Edwards Air Force Base for two and a half hours at altitudes of up to 22,700 feet, said Will Bolton, a deputy director of the atmospheric radiation measurement-unmanned aerospace vehicle program.

Researchers are divided over the question of whether increased cloud cover — expected to result from rising levels of carbon dioxide in the atmosphere — will offset the rising temperatures that carbon dioxide is suspected of creating.

The project could solve the dilemma. Because the craft is unmanned, it can be sent to global warming hot spots over the Arctic and Pacific oceans, regions so remote that a pilot who had to bail out of the plane might not survive.

The 1,100-pound craft, with a 35-foot wingspan, will also be able to fly missions for time spans much longer than pilots. The first flight Nov. 13 collected some data but was mainly to work out engineering kinks.

In March, the aircraft will fly above the Department of Energy's cloud and radiation test bed in north-central Oklahoma, collecting information on temperature, air pressure, water vapor concentrations and other atmospheric conditions. That data will then be compared to the information gathered by instruments on the ground.

The successful test was a feat of miniaturization. Engineers had to shrink cumbersome measurement instruments and two on-board computers into a compact, 157-pound package.

Lawrence Livermore National Laboratory researchers are also developing instruments for cloud detection that will fly on future flights.

Bolton said he has discussed possibly using the Condor, Lawrence Livermore's huge unmanned plane. The lab acquired the plane — which can fly as high as 100,000 feet — just before it was junked by the Pentagon.